



Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at <http://about.jstor.org/participate-jstor/individuals/early-journal-content>.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

PERSONAL IMMORTALITY IN THE LIGHT OF RECENT SCIENCE.

BY THE REV. DONALD SAGE MACKAY, D.D.

THE late Frederick W. H. Myers, whose two massive volumes on "The Immortality of the Soul" reflect the minuteness of his researches, made the assertion shortly before his death that, "within a century, the scientific proof of personal immortality would be so strong that no reasonable man would question it." To that prediction not many persons, least of all men of science, would assent. The hope of immortality will never be more than a hope, and faith in it must rest rather in the region of the affections, than in that of the intellect. The element of mystery is not only a vital part of religion, it belongs to the discipline of character. If the certainty of the future life were revealed so clearly and definitely that doubt would be impossible, that knowledge would not only cheapen, but degrade, the nobler side of life. Affection itself would become coarse and vulgar, if the immortality of each individual were lifted out of the region of reverent faith into that of demonstrated fact.

On the other hand, no one who studies, however superficially, the current tendencies of scientific research, can be blind to a profound change which, within quite recent years, has come over the temper of science in reference to the question of the immortality of the soul. With the first shock, which Darwin's "Origin of Species" produced on its appearance in 1859, the evolutionary hypothesis seemed to sweep away every scintilla of scientific evidence for the separate existence of the soul. One remembers, in this connection, Darwin's own words, quoted in one of his published letters, which express pretty accurately the scientific attitude of his day. "As for me, I am an old

man and am content to remain an agnostic. But, amongst a mass of contradictory evidence, I see no basis for belief in a future existence." The inevitable note of depression which this temper produced finds constant utterance in the great writers of the latter half of last century. None is more characteristic than George Eliot. The undercurrent of an almost resentful despair runs through her later writings like a stream of Stygian darkness. "I remember," writes Mr. F. W. H. Myers, "how at Cambridge I walked with her once in the Fellow's Garden of Trinity, on an evening of rainy May, and she stirred somewhat beyond her wont; and, taking as her text the three words which have been used so often as the inspiring trumpet-calls of men,—the words 'God,' 'Immortality,' 'Duty,'—pronounced with terrible earnestness, how inconceivable was the first, how unbelievable was the second, and how peremptory and absolute the third. Never, perhaps, had sterner accents affirmed the sovereignty of impersonal and unrecompensing law. I listened, and night fell; her grave, majestic countenance turned towards me like a Sibyl's in the gloom; it was as though she withdrew from my grasp, one by one, the two scrolls of promise, and left me the third scroll only, awful with an inevitable fate." For many of the most thoughtful minds in that period, belief in a future life was little more than an anxious wish or a vague perhaps.

But to-day a new voice is speaking in science. As the deeper facts of existence are being traced in ways unknown in an earlier day, the man of science now tells us that there is no scientific proof of the impossibility of life after death. The science of to-day does not undertake to prove immortality, but neither does she deny it. With the newer light of recent research before her, she goes thus far at least and says: "Scientifically, the doctrine of immortality is not an impossible delusion." Huxley, for example, in one of his later essays has this to say: "If the belief in immortality is essential to morality, physical science has nothing to say against the probability of that doctrine. It [physical science] effectually closes the mouths of those who pretend to refute immortality by objections deduced from merely physical data." This attitude of Huxley has found even more distinctive affirmation in recent years from such men of scientific attainment as Sir Oliver Lodge, John Fiske, Professors James

and Münsterberg of Harvard—all of whom have written sympathetically and hopefully of immortality, not from the standpoint of the Christian believer, but from that of the unbiassed scientist.

Let us briefly trace the trend of this growing sympathy on the part of science, within the last few years, towards belief in a future existence for the individual. It is itself a beautiful illustration of the process of evolution.

Sixty years ago, an English scientist, by a very simple experiment, made a discovery which Professor Huxley himself described as the greatest of all discoveries of the nineteenth century. The experiment was this: By letting drop a weight of 772.55 pounds one foot in a body of water, Dr. Joule found that the temperature of that water to the extent of one pound, was increased exactly one degree, Fahrenheit. A very simple result, and yet that experiment opened up the way to the discovery of the law of conservation of energy, according to which energy may and does constantly change its form, but never perishes. The energy of motion passes into the energy of heat, heat engenders steam, steam changes into electricity, electricity into light, and in a hundred different ways the great forces of the world are in a constant state of transition; but they never perish. What we call "death" is not annihilation, it is only a change of energy. Decay is simply the breaking up of life into new and more multiplied forms of life. The latest science recognizes at least nine different forms of energy into which a single force may pass and repass without diminution or loss. That, of course, is the great discovery of modern science, that energy may be transformed from one form into another, may be transferred from one body to another, but cannot be destroyed.

Not immediately was the bearing of this scientific law on the doctrine of immortality recognized. And yet, as the mind adjusted itself to the almost protean forms of energy, it became apparent that life itself, which is the highest form of energy we know, must inevitably become subject to this law. Death, when it touches a human life, is not destruction of energy, it is simply a change through which life passes into some new form of activity. Your candle, for instance, burns down to the socket and, after a flicker or two, goes out. To the eye of sense, that is the end of your candle, and it has been used over and over

again as the image of death. But, according to the law of the conservation of energy, the light and heat of that candle are not lost. They have passed into other forms of energy more subtle but not less real. A log is slowly consumed upon the hearth until nothing remains but a heap of filmy ash, but the light and energies of that log are not lost. The life, which was in the tree, deposited in that log certain forces, and the fire has liberated these forces in other modes of activity. The whole universe, in fact, is a vast area of ceaseless, indestructible energy, of which life is the highest type.

Within the last half-dozen years, science has emphasized still another fact, namely, that, the more powerful a force is, the less visible it is to human sight; the less susceptible of recognition. The energy of radium, for example, is so tremendous, that the hundredth part of a grain of radium dropped into its own weight of water will change the temperature of that water from the freezing-point to the boiling-point in a single hour. It is, of course, admitted that this does not prove the immortality of the individual soul by any means; but it does prove the indestructibility of life. Religion has surely gained a magnificent trophy from science when science tells her that life is an indestructible element in the universe. Life may and does change its form every moment, but life itself cannot perish.

At this point, the obvious objection suggests itself, that the indestructibility of life is one thing, but the immortality of the personal soul is quite another. How do I know that this personal self of mine, this bundle of energy which constitutes Me, will survive the shock of death? The life that I share in common with my fellow creatures may be indestructible, but what about myself, who simply possess life for an uncertain period? That, of course, is the very heart of the problem. And yet, once more, an appeal to what has come to be one of the most commonplace axioms of science may cast some light upon this aspect of the question. Modern science has not only committed itself to the indestructibility of energy, but also to the law of the persistence of energy. What, then, is the most persistent thing we know, the thing that in the face of constant change never loses its essential unity and identity? That highest form of the persistence of energy is our personality. Personality is the most persistent form of energy we know. Think, for example,

of the changes through which year by year the body passes. It is a commonplace of medical science that, every seven years, every particle of matter in the body—fibre, bone, muscle—is completely changed and renewed. Every moment the body itself is in a state of conflagration, the carbonic-acid gas burning the waste material and the oxygen renewing it through the blood. No change can be more constant or more complete than that through which the physical body of each individual passes, and yet its identity remains essentially the same. Or, again, think of the changes in experience through which an individual passes. Take, as a simple illustration, a poor street Arab with scarcely a rag to his back; untaught to read or write, he presents the picture of absolute want and ignorance. But, in the course of years, that street waif wins his way upward to success, and, after many startling experiences, becomes at last the millionaire, commanding every luxury and comfort which money can buy. No contrast in circumstances could be more complete, yet it does not destroy the personal identity of the street Arab. The boy survives in the millionaire. His character is changed, his tastes are changed, new habits have been formed; but this mysterious, persistent thing we call “personality” abides through all change.

If, therefore, John Brown at seventy years of age has had no fewer than ten complete changes of body in the course of his existence, and has passed through all kinds of mental and moral and spiritual experiences—from that of an innocent child to a libertine, from a libertine to a drunkard, from a drunkard, through conversion, to a saint—and yet remains through it all the same John Brown, what authority has any sceptic to say that at death, which in itself is the simplest and the least complicated of all changes, the soul of John Brown dies and there is the end of him? How does the sceptic know? A denial without proof is no better than an assertion without proof. At best, the probability is as great one way as the other. It would be strange, indeed, that personality—the highest, the most persistent, the most intelligent form of energy we know—should be the one exception in the great law of the conservation of energy, according to which energy cannot perish.

Of course, all this does not answer another difficulty which, for many people in these days, stands in the way of accepting

the truth of personal immortality. The intimate and, so far as we can judge, the absolute connection between the soul and the body presents a bewildering condition. The mind, as we know it, reflects every physical change of growth and maturity and decay. A violent blow on the head will not only weaken a man's intellectual strength, but change his whole moral character. If, therefore, the brain and body are so vitally connected that a decaying body reflects a decaying mind, what proof is there that a dead body should be able to liberate a living mind? The question and the objections it raises are old. A century ago, the case was boldly put when we were asked to believe that the brain secretes thought as the liver secretes bile. According to that theory, consciousness, with its mysterious convolutions, is but a function of the brain, just as bile-making is a function of the liver: with the death of the liver, bile ceases; with the death of the brain, thought dies.

What answer does science give to this last objection? The answer lies in the meaning of the word "function." What do we mean when we speak of thought as a "function" of the brain? As Professor James properly points out, there is a twofold kind of function, "productive" function and "transmissive" function. Steam is a produced function of the teakettle; light is a produced function of the electric circuit. In each of these cases, the functions of steam and light are produced or engendered by their appropriate sources. But light shining through a stained-glass window is a transmitted function. A colored window does not produce light, it merely transmits it, and, in transmitting it, colors the light with its own individual hues. Music issuing in tones of heavenly beauty from an organ is a transmitted function. The organ does not produce the music, it merely transmits it, and in transmitting it gives to the music a certain individuality of expression peculiar to the organ. If Paderewski were placed before an old crazy spinet, with half of its notes jangled and out of tune, it is possible that some wise people would shake their heads and say that Paderewski's genius was gone; he had lost his art and his day was passed. But place Paderewski before a perfectly equipped modern piano, and in an instant the old power would manifest itself in tones of luscious sweetness. So it is not an unfair inference to believe, that the brain is not the producer, but rather the transmitter, of thought.

The function of the brain is transmissive rather than productive. And, although at times the soul does outlast its physical apparatus, who cannot believe that through death the soul will be introduced into new modes of life and energy?

What has the teaching of the New Testament to say to this trend of scientific thought? In the first place, the New Testament stands with science for the great fact of the indestructibility of life. Everlasting life is the special revelation and peculiar promise of the New Testament. In the second place, the New Testament stands for the scientific law of the conservation of energy. "It is sown in weakness, it is raised in power. It is sown in corruption, it is raised in incorruption. It is sown a mortal body, it is raised an immortal body." Life changes its form, but it is not destroyed. Finally, the New Testament stands for the doctrine of the transforming power of death. Death, in the New Testament, is but a sleep in which the wearied powers of nature are renovated. And man, on awakening from the sleep of death, enters into the power and richness of the life immortal. In these ways, science and religion seem to be coming together in recognition of the most glorious and inspiring truth that human thought can grasp, the immortality of the individual soul.

DONALD SAGE MACKAY.